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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,139	02/27/2004	Yoshinobu Yamakita	038440-0106	4646

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FOLEY AND LARDNER LLP  
SUITE 500  
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WASHINGTON, DC 20007

EXAMINER

CAI, WAYNE HUU

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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05/02/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/787,139

Applicant(s)

YAMAKITA, YOSHINOBU

Examiner

Wayne Cai

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 3 and 8 is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 4-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments, see remarks, filed February 22, 2007, with respect to the rejection(s) of claim(s) 1, 2, 4, 5,6 under Doi (US 2005/0070333) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Strich et al. (hereinafter "Strich", US 2002/0054580).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dam et al. (hereinafter "Dam", US 2001/0016504) in view of Strich et al. (hereinafter "Strich", US 2002/0054580).

**Regarding claim 1**, Dam discloses essentially all the claimed invention as set forth in the instant application, further Dam discloses a method and system for handling radio signals in a radio base station. In addition Dam discloses a base station apparatus, comprising: a plurality of connectors (beams 1-8) used for connection to a plurality of antennas (460) respectively; a plurality of transmission/reception circuits

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(420) performing transmission/reception using said plurality of antennas (460); and an antenna switching unit (490) provided between said plurality of connectors (beams 1-8) and said plurality of transmission/reception circuits (420) and modifying (which reads on switching) a connection relation between said plurality of connectors (beams) and said plurality of transmission/reception circuits (420) (which is exhibited in figure 7 and disclosed in paragraph 0033).

However Dam fails to disclose relationship between said plurality of antennas and said plurality of transmission/reception circuits, wherein said erroneous relationship occurred during installation.

In the same field of endeavor, Strich discloses a dynamic sectorization in a spread spectrum communication system. Strich also discloses relationship between said plurality of antennas and said plurality of transmission/reception circuits, wherein said erroneous relationship occurred during installation (paragraphs 0089-0092).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Dam by modifying method and system for handling radio signals in a radio base station with a relationship between said plurality of antennas and said plurality of transmission/reception circuits, wherein said erroneous relationship occurred during installation as taught by Strich for the purpose of ensuring the transmission directivity is adjusted while employing the correction values.

4. Claims 2, 4, 5, 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dam et al. (hereinafter "Dam", US 2001/0016504) in view of Strich et al. (hereinafter "Strich", US 2002/0054580), and further in view of Martin et al. (hereinafter "Martin", US 6,397,083).

**Regarding claims 2 and 4**, Dam in view of Strich discloses everything as applied above, additionally Dam in view of Strich discloses a plurality of antennas (450, 460), however the combination of Dam in view of Strich fails to disclose a plurality of antennas are divided into a plurality of groups, a number of which is equal to a number of said plurality of transmission/reception circuits, said base station apparatus further comprises a control unit, and when said antenna switching unit is at an initial state, said control unit obtains properties of said plurality of antennas via said plurality of connectors, determines to which of said plurality of groups each of said plurality of antennas should belong, based on said obtained properties, and causes a state of said antenna switching unit to make a transition from said initial state to a use state suitable for use.

In the same field of endeavor, Martin discloses bootstrapped, piecewise asymptotic directivity pattern control mechanism setting weighting coefficients of phased array antenna. In addition Martin et al. discloses the use of a plurality of antennas are divided into a plurality of groups (which reads on column 5 lines 39-41), a number of which is equal to a number of said plurality of transmission/reception circuits (which reads on column 5 lines 42-45), said base station apparatus further comprises a control unit (300), and when said antenna switching unit is at a initial state, said control unit

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obtains properties of said plurality of antennas via said plurality of connectors (which reads on weighting circuit), determines to which of said plurality of groups each of said plurality of antennas should belong, based on said obtained properties, and causes a state of said antenna switching unit to make a transition from said initial state to a use state suitable for use (which reads on column 5 lines 36-65).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to improve Dam by modifying method and system for handling radio signals in a radio base station with a plurality of antennas are divided into a plurality of groups, a number of which is equal to a number of said plurality of transmission/reception circuits, said base station apparatus further comprises a control unit, and when said antenna switching unit is at a initial state, said control unit obtains properties of said plurality of antennas via said plurality of connectors, determines to which of said plurality of groups each of said plurality of antennas should belong, based on said obtained properties, and causes a state of said antenna switching unit to make a transition from said initial state to a use state suitable for use, as taught by Martin et al. for the purpose of providing a significant amount of system flexibility and improved efficiency of system capacity.

**Regarding claim 5**, Dam in view of Strich discloses everything as applied above, additionally Dam discloses wherein said plurality of elements are resistance elements (which reads on paragraph 0011).

**Regarding claim 6**, Dam in view of Strich discloses everything as applied above, additionally Dam discloses a plurality of transmission/reception circuits comprises a test

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transmission/reception circuit and a second transmission/reception circuit, wherein said antenna switching unit comprises a switching portion have N inputs for respectively connecting to said plurality of connectors, said switching portion having N outputs, said plurality of connectors being N in number (which reads on paragraph 0033), N being a positive even integer greater than or equal to four; and a first connection switch having N internal switches respectively connected at one end to said N outputs of said switching portion (which reads on paragraph 0034), a first subset of said N internal switches being respectively connected at another end to said first transmission/reception circuit and a second subset of said N internal switches being respectively connected at another end to said second transmission/reception circuit, all of said N internal switches being included in either said first subset or said second subset, but not both (which reads on paragraph 0033 and 0034).

***Allowable Subject Matter***

5. Claims 3 and 8 are allowed as previously indicated in office action dated November 28, 2006.

***Conclusion***


6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wayne Cai whose telephone number is (571) 272-7798. The examiner can normally be reached on Monday - Thursday from 7:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duc Nguyen can be reached on (571) 272-7503. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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Art Unit 2617



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